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Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	68	L-ascorbic acid and (L-gulose or L-galactose or L-idose or L-talose or L-gulono-1,4-lactone or L-gulonic acid or L-galactono-1,4-lactone or L-galctonic acid or L-idono-1, 4-lactone, L-iodonic "acid. L-talono-1,4-lactone" or L-talonic acid)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2006/07/28 08:21
L2	12	L1 and SEQ ID NO: "2"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2006/07/28 08:24
L3	2	"6730503".pn.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2006/07/28 08:25

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- ☐ 1. Biotechnological approaches for l-ascorbic acid production  
**Hancock, R.D. / Viola, R., Trends in Biotechnology**, Jul 2002  
 ...Biotechnological approaches for **l-ascorbic acid production** Robert D. Hancock  
 Roberto Viola...majority of world vitamin C ( **l-ascorbic** acid, l-AA) is produced.  
 The...The Reichstein process for **l-ascorbic** acid ( l-AA) manufacture...  
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- ☐ 2. Biotechnological approaches for L-ascorbic acid production.  
**Robert D Hancock / Roberto Viola, Trends Biotechnol**, Jul 2002  
 ...develop alternatives to the Reichstein process, a largely chemical synthesis by which  
 the vast majority of world vitamin C (**L-ascorbic** acid, L-AA) is produced. The pressures  
 include increasing environmental concerns and legislation, and the need to increase...  
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- ☐ 3. The use of micro-organisms for L-ascorbic acid production: current status and future perspectives.  
**R D Hancock / R Viola, Appl Microbiol Biotechnol**, Sep 2001  
**L-Ascorbic** acid (L-AA) has been industrially produced for around 60 years in a primarily  
 chemical process utilising D-glucose (D-glc) as starting...  
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- ☐ 4. L-ASCORBIC ACID PRODUCTION IN MICROORGANISMS  
**HUSS, Ronald, John / RUNNING, Jeffrey, A. / SKATRUD, Thomas, J. / DCV, Inc.,**  
**EUROPEAN PATENT**, Feb 1997  
 ...improvement in microalgal **L-ascorbic acid production**. However, at the  
 relatively...required for cell metabolism and **L-ascorbic acid production**. A need exists

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for an efficient...microalgal method for producing **L-ascorbic** acid at low pH (less than...

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☐ 5. Manufacture of L-ascorbic acid and D-erythorbic acid

**Asakura, Akira / Hoshino, Tatsuo / Kiyasu, Tatsuya / Shinjoh, Masako / DSM IP Assets B.V., EUROPEAN PATENT**, Aug 2000

...other methods of synthesizing **L-ascorbic** acid by microorganisms. Most microbial productions of **L-ascorbic** acid have been focused on the production of an intermediate of **L-ascorbic acid production**, 2-keto-L-gulonic acid, from...

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☐ 6. CONTINUOUS PROCESS FOR PRODUCING L-ASCORBIC ACID

**ARUMUGAM, Bhaskar / COLLINS, Nick / MACIAS, Transtio / PERRI, Steven / POWELL, Jeffery / SINK, Chester / CUSHMAN, Michael / EASTMAN CHEMICAL COMPANY, PATENT COOPERATION TREATY APPLICATION**, Jul 2002

...reactor exemplifying the change in **L- ascorbic** acid selectivity over the course...exemplifying the high selectivity of **L-ascorbic acid production** at partial conversion in accordance...keto-L 15 gulonic acid (KLG) to **L-ascorbic** acid (ABA) in a continuous reactor...

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☐ 7. Microbiological manufacture of L-ascorbic acid

**Hoshino, Tatsuo / Matzinger, Peter Karl / Ojima, Setsuko / Sugisawa, Teruhide / DSM IP Assets B.V., EUROPEAN PATENT**, Apr 1999

...for the microbiological manufacture of **L-ascorbic** acid from L-gulono-gamma-lactone. As...oxidation of L-gulono-gamma-lactone to **L-ascorbic** acid. Enzymes which catalyze the oxidation of L-gulono-gamma-lactone (I) to **L-ascorbic** acid (II) are known. Nishikimi et al...

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☐ 8. L-ASCORBIC ACID PRODUCTION IN MICROORGANISMS

**HUSS, Ronald, John / RUNNING, Jeffrey, A. / SKATRUD, Thomas, J. / BIO-TECHNICAL RESOURCES L.P., PATENT COOPERATION TREATY APPLICATION**, Aug 1995

**L-ASCORBIC ACID PRODUCTION** IN MICROORGANISMS FIELD OF...improvement in microalgal **L- ascorbic** acid production. However, at the relatively...required for cell metabolism and **L-ascorbic acid production**. A need exists for an efficient...

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☐ 9. L-ASCORBIC ACID PRODUCTION IN MICROORGANISMS

**HUSS, Ronald, John / RUNNING, Jeffrey, A. / SKATRUD, Thomas, J. / BIO-TECHNICAL RESOURCES, PATENT COOPERATION TREATY APPLICATION**, Sep 1993






**TITLE L-ASCORBIC ACID PRODUCTION** IN MICROORGANISMS CROSS-REFERENCES...provides an improved process for **L- ascorbic** acid production, which process comprises...amounts suitable for growth and **L-ascorbic acid production**, allowing the organism to...

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10. Expression of rat gene for l-gulono-γ-lactone oxidase, the key enzyme of l-ascorbic acid

- ☐ [biosynthesis, in guinea pig...](#)  
**Krasnov, A. / Reinisalo, M. / Pitkanen, T.I. / Nishikimi, M. / Molsa, H., *Biochimica et Biophysica Acta (BBA)/General Subjects*, Jul 1998**  
 ...is the only missing enzyme of **L-ascorbic** acid biosynthesis, homogenates...conditions developed for studies on **L-ascorbic acid production** in rat liver preparations [16...15 min more. An increase of **L-ascorbic** acid content was found in postlysosomal...  
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- ☐ **11. CRYSTAL 2-O- $\alpha$ -D-GLUCOPYRANOSYL-L-ASCORBIC ACID, PRODUCTION AND USE THEREOF**  
**SAKAI SHUZO / YONEYAMA MASARU / MIYAKE TOSHIO / HAYASHIBARA BIOCHEM LAB INC, PATENT ABSTRACTS OF JAPAN**, Jun 1991  
 ...MATERIAL: Crystal 2-O- $\alpha$ -D-glucopyranosyl-**L-ascorbic** acid. Main diffraction angles (2 $\theta$ ) are...cosmetic. PREPARATION: A solution containing **L-ascorbic** acid and an  $\alpha$ -glucosyl saccharide compound...solution containing 2-O- $\alpha$ -D-glucopyranosyl-**L-ascorbic** acid, which is purified by chromatography...  
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- ☐ **12. ASCORBIC ACID PRODUCTION FROM YEASTS**  
**PORRO, Danilo / SAUER, Michael / BIPOLO S.C.A.R.L., PATENT COOPERATION TREATY APPLICATION**, Feb 2002  
 ASCORBIC **ACID PRODUCTION** FROM YEASTS BACKGROUND...the field of ascorbic **acid production**. More particularly...for the production of **L-ascorbic** acid from yeast, including...Description of Related Art **L-ascorbic** acid (Vitamin C) is...  
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- ☐ **13. METHOD FOR PURIFYING L-ASCORBIC ACID**  
**MAKINO KAORU / KAWAI KAZUHIRO / TANIMURA MASAYASU / TAMURA MASAO / TAKEDA CHEM IND LTD, PATENT ABSTRACTS OF JAPAN**, Jul 1996  
 ...**L-ascorbic** acid containing 0.01-50W/V% **L-ascorbic** acid, 0-10W/V% 2 keto-L-gulonic acid, 3W...mother liquid for the crystallization of **L-ascorbic** acid in the process of a **L-ascorbic acid production**, and separating and purifying it effectively...  
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- ☐ **14. L-GALACTOSE DEHYDROGENASE FROM ARABIDOPSIS THALIANA, AND USES THEREOF**  
**SMIRNOFF, Nicholas / WHEELER, Glen / ASCORBEX LIMITED, PATENT COOPERATION TREATY APPLICATION**, Oct 2001  
 ...both plant and animal, either synthesize **L-ascorbic** acid (also referred to herein as "ascorbic...capillaries, and is useful as an antioxidant. **L-ascorbic** acid is a major metabolite of plants...L-galactose L- galactono-1,4- lactone and **L-ascorbic** acid (Wheeler et al., (1998) Nature 393...  
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- ☐ **15. VITAMIN C PRODUCTION IN MICROORGANISMS AND PLANTS**  
**BERRY, Alan / RUNNING, Jeffrey, A. / SEVERSON, David, K. / BURLINGAME, Richard, P. / DCV, INC., doing business as BIO-TECHNICAL RESOURCES, PATENT COOPERATION TREATY APPLICATION**, Dec 1999  
 ...invention relates to vitamin C (**L-ascorbic acid**) **production** using genetically

modified...photosynthesis. Accordingly, ascorbic **acid production** is known in photosynthetic...pathway from L-galactose to **L- ascorbic** acid in plants. Fig. 2A is...


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☐ 16. L-ascorbic acid production in microorganisms

**Skatrud, Thomas J. / Huss, Ronald J. / Bio-Technical Resources, Inc., UNITED STATES PATENT AND TRADEMARK OFFICE GRANTED PATENT**, Mar 1991

Improved production of ascorbic acid is obtained employing Chlorella as a microorganism source and growing the culture under a controlled pattern of carbon source supply.


Greatly improved ratios of ascorbic acid to total carbon supplied as well as...

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☐ 17. Oxalic acid production and aluminum tolerance in Pseudomonas fluorescens

**Hamel, R. / Levasseur, R. / Appanna, V.D., Journal of Inorganic Biochemistry**, Aug 1999

...S0162013499001208 S0162-0134(99)00120-8 Oxalic **acid production** and aluminum tolerance in Pseudomonas...the control cells. Although oxalic **acid production** was observed when citrate, Al-citrate...suggest that the increased oxalic **acid production** in response to Al stress is effected...

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☐ 18. GDP-MANNOSE-3',5'-EPIMERASE AND METHODS OF USE THEREOF

**WOLUCKA, Beata / VLAAMS INTERUNIVERSITAIR INSTITUUT VOOR BIOTECHNOLOGIE VZW, PATENT COOPERATION TREATY APPLICATION**, Dec 2002


...ascorbic acid (also referred to herein as **L-ascorbic** acid, L- M or M) is an 5 important...activity and an increase in ascorbic **acid production** in these mutants. However, like PCT...is sufficient to I increase ascorbic **acid production** in the host cell. 20 Yet another embodiment...

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☐ 19. The commercial production of chemicals using pathway engineering

**Chotani, G. / Dodge, T. / Hsu, A. / Kumar, M. / LaDuca, R. / Trimbur, D. / Weyler, W. / Sanford, K., Biochimica et Biophysica Acta (BBA)/Protein Structure and Molecular Enzymology**, Dec 2000

...point enzymes. Succinic **acid production** was increased by overexpressing...phosphotransferase system (PTS), succinic **acid production** in E. coli was enhanced...fully replaced by lactic **acid production** (1.19 mol lactate per mole...the gene JEN1 [30] . 3.3 I -Ascorbic acid I -Ascorbic acid (vitamin...

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☐ 20. ENHANCED 2-KETO-L-GULONIC ACID PRODUCTION

**KUMAR, Manoj / VALLE, Fernando / DARTOIS, Veronique, A. / HOCH, James, A. / MICROGENOMICS, INC., PATENT COOPERATION TREATY APPLICATION**, Feb 2002

ENHANCED 2-KETO-L-GULONIC **ACID PRODUCTION** FIELD OF THE INVENTION The present invention generally relates...that 2-keto-L-gluonic acid (2-KI-G) is readily converted to **L-ascorbic** acid (vitamin c) by a one-step chemical procedure in the Reichstein...

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RD Hancock, R Viola - Trends Biotechnol, 2002 - ncbi.nlm.nih.gov

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Hancock RD, Viola R. Unit of Plant Biochemistry, Scottish ...

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Ascorbic Acid Enhances Endothelial Nitric-oxide Synthase Activity by Increasing Intracellular ... - group of 3 »

A Huang, JA Vita, RC Venema, JF Keaney Jr - Journal of Biological Chemistry, 2000 - jbc.org

... 1 Endothelial **production** of NO is crucial in the control of vascular tone (1), arterial ...

Uptake of ascorbic **acid** was determined using [ 14 C]**L-ascorbic acid**. ...

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L-Ascorbic Acid Potentiates Endothelial Nitric Oxide Synthesis via a Chemical Stabilization of ... - group of 5 »

R Heller, A Unbehaun, B Schellenberg, B Mayer, G ... - Journal of Biological Chemistry, 2001 - jbc.org

... may cause a shift in the balance between the **production** of NO ... Me 2 SO), GTP,

2,4-diamino-6-hydroxypyrimidine (DAHP), **L-ascorbic acid**, lipopolysaccharide (LPS ...

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... Gluconobacter oxydans and microbial **production** of 2-keto-L-gulonate, a precursor of L-ascorbic acid ... - group of 7 »

Y Saito, Y Ishii, H Hayashi, Y Imao, T Akashi, K ... - Applied and Environmental Microbiology, 1997 - aem.asm.org

... the other hand, the use of microbial processes to produce **L -ascorbic acid** has recently ...

Furthermore, the **production** yield may be im- proved still more compared ...

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Pharmacological Concentrations of Ascorbic **Acid** Are Required for the Beneficial Effect on ... - group of 5 »

DL Sherman, JF Keaney Jr, ES Biegelsen, SJ Duffy, ... - Hypertension, 2000 - hyper.ahajournals.org

... However, even 10 mmol/L **ascorbic acid** failed to improve EDNO action when endogenous

superoxide anion **production** was enhanced by treating isolated arterial ...

Cited by 56 - [Web Search](#) - [BL Direct](#)

L-Ascorbic Acid Inhibits UVA-Induced Lipid Peroxidation and Secretion of IL-1 alpha and IL-6 in ... - group of 3 »

B Tebbe, S Wu, CC Geilen, J Eberle, V Kodelja, CE ... - Journal of Investigative Dermatology, 1997 - nature.com

... These findings indicate a major cell-protective effect of **L-ascorbic acid** on

UVA-induced ... effect of in vitro and in vivo irradiation on the **production** of ETAF ...

Cited by 30 - [Cached](#) - [Web Search](#)

L-ascorbic acid 2-phosphate stimulates collagen accumulation, cell proliferation, and formation of a ... - group of 2 »

RI Hata, H Senoo - Journal of Cellular Physiology, 1989 - doi.wiley.com

... more remarkable than the addi- tion of **L-ascorbic acid**. ... collagen synthesis andlor

of **production** of underhydroxylated ... of azetidine 2-carboxylic acid ( Ad , 0.5 ...

